

REMARKS/ARGUMENTS

The present application contains claims 2-9, 11-20 and 22-32. Claims 1, 10, and 20 have been canceled without prejudice to applicant and the contents of these claims have been respectively incorporated into claims 3, 14 and 23. Claims 2, 3, 7-9, 11-14, 16, 18-20, 22, 23, 25 and 27-32 have been amended.

Claims 1, 7-12, 18-20, 21 and 27-32 have been rejected under 35 U.S.C. Section 103(a) as unpatentable over Seki (Pbn. '649) in view of Miller et al. (Patent '653). This rejection is respectfully traversed as regards claims 7-9, 11, 12, 18-20 and 27-32, claims 1, 10 and 21 having been canceled and their contents having been added to claims 3, 14 and 23, respectively.

Pbn. '649 neither teaches nor remotely suggests a "heat insulating portion" as recited in independent claims 3, 14, 23 (from which claims 21 and 27-29 depend) and claims 30-32.

More specifically, "the holding member including a heat insulating portion configured to suppress conduction of heat" as recited in claims 3, 14 and 23 and a "insulating portion for suppressing conduction of heat between said heat radiating portion and said light guiding means" recited in claims 30-32 refers to collars 33 and spacers 34 shown, for example, in Figure 1 and formed of a material having a low thermal conductivity such as ceramics or plastics, for example. Another

example is shown in Figure 7 and comprises narrow portions 36C1, whose cross-sectional areas are small, provided along the rod supporting portions 36C. The narrow portions 36C1 provide the function of a heat insulating portion by making the cross-sectional areas small and making the heat resistance larger compared to other locations. The above structures of the present invention suppress the transmission of heat of the LED chip 10 from rod holder 36 to the tapered rod 20 by means of the "heat insulating portion". This prevents deterioration of the optical characteristic of tapered rod 20.

Patent '653 teaches a thermal control bushing 27 formed of a *conductive* material and having a rectangular aperture 26 for receiving the rectangular portion of parabolic glass coupler 20. The portion of bushing 27 surrounding the glass coupler 20 can thus be seen to conduct heat and radiate the conducted heat by way of the fins (unnumbered) extending upwardly and downwardly from the thermal control bushing 27, as shown best in Fig. 5. It can thus be seen that there is no "heat insulating portion" provided or disclosed in Patent '653.

In view of the fact that all of the independent claims 3, 14, 23 and 30-32 now recite the holding member as including a heat insulating portion for suppressing conduction of heat between the heat radiating portion and the light guiding member which, as was pointed out above, prevents deterioration of the optical characteristic

Applicant: Naoaki Tani
Application No.: 10/653,329

of tapered rod 20, these claims now patentably distinguish over Seki taken with Miller.

In view of the fact that all of the dependent claims depend from at least one of the aforesaid independent claims and therefore carry all of the limitations of their respective independent claims, it is submitted that these claims likewise patentably distinguish over the aforesaid combination of Pbn. '649 and Patent '653.

Claims 2-6, 13-17 and 22-26 have been rejected under 35 U.S.C. Section 103(a) as unpatentable over Seki in view of Miller as applied to claims 1, 7-12, 18-20, 21 and 27-32 and further in view of Hoffman (Patent '550). This rejection is respectfully traversed.

As was pointed out above, neither Seki nor Miller teach or even remotely suggest the heat insulating portion as set forth in the independent claims as amended and further as incorporated in the dependent claims which depend from at least one of said independent claims.

Patent '550 teaches a coupling 26 which is connected between light source 4 and light pipe 16. Coupling 26 is described as being formed of a conductive material such as metal as recited at column 4, line 39 and is further described as providing convective heat transfer at lines 50 and 51 of column 4 as well as providing a radiation disbursing barrier. It is thus clear that Patent '653 neither teaches nor remotely suggests a holding member having a heat insulating portion configured to

Applicant: Naoaki Tani
Application No.: 10/653,329

suppress conduction of heat between the heat radiating portion and the light guiding member. In view thereof it is submitted that claims 2-6, 13-17 and 22-26 patentably distinguish over the cited prior art and reconsideration and allowance of these claims are earnestly solicited.

The rejection of claims 1, 7-12, 18-20, 21 and 27-32 under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1, 14 and 30 of co-pending application number 10/653,004 (as presented in U.S. 2004/0041984) in view of Miller et al. is respectively traversed as to the above claims except for canceled claims 1, 14 and 21.

As was pointed out hereinabove, Miller et al. fails to teach the novel and patentable limitation of a holding member including a heat insulating portion configured to suppress conduction of heat between the heat radiating portion and the light guiding member.

In addition thereto, claims 1, 14 and 30 of the aforesaid co-pending application, while reciting the holding member, fail to recite a holding member including a heat insulating portion configured to suppress conduction of heat. For these reasons it is submitted that the rejection of claims 7-12, 18-20 and 27-32 should be withdrawn.

Claims 2, 3-6, 13-17 and 22-26 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being

Applicant: Naoaki Tani
Application No.: 10/653,329

unpatentable over claims 1, 14 and 30 of the aforementioned co-pending application number 10/653,004 in view of Miller as applied to claims 1, 7-12, 18-20, 21 and 27-32 and further in view of Hoffman.

As was pointed out above, Miller and co-pending application '004 fail to teach a holding member including a heat insulating portion configured to suppress conduction of heat between the heat radiating portion and the light guiding member. In addition, as was set forth hereinabove, Hoffman et al. also lacks such a teaching and for these reasons it is submitted that the provisional rejection of claims 2, 3-6, 13-17 and 22-26 under the judicially created doctrine of obviousness-type double patenting should be withdrawn.

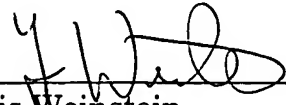
In view of the foregoing, it is submitted that claims 2-9, 11-20 and 22-32 patentably distinguish over the art of record and the rejections based on prior art as well as the rejections based on double patenting should be withdrawn.

Applicant: Naoaki Tani
Application No.: 10/653,329

Favorable action is awaited.

Respectfully submitted,

Naoaki Tani

By 
Louis Weinstein
Registration No. 20,477

Volpe and Koenig, P.C.
United Plaza, Suite 1600
30 South 17th Street
Philadelphia, PA 19103
Telephone: (215) 568-6400
Facsimile: (215) 568-6499

LW/bbf